

# Rocky Mountain-Great Plains Area

## Fuels and Fire Behavior Advisory

August 28, 2012

**Subject:** Potential for extreme fire behavior due to continued prolonged drought, critically low live and dead fuel moistures, failing agriculture crops across the plains, and active crown fire behavior in the Ponderosa Pine stands in Nebraska and in mountain pine beetle kill in the Black Hills is resulting in high fire danger rating values across Nebraska, western and southern South Dakota, portions of eastern Wyoming and south central North Dakota.

**Discussion:** Extreme and severe drought is predicted to continue across Nebraska and southern South Dakota into the fall of 2012. Fires burning in Nebraska and in southern South Dakota are exhibiting extreme fire growth due to critical fuel conditions. Surface fuels, failing agriculture crops, mountain pine beetle killed in ponderosa pine areas and extremely dry heavy dead and down fuels are highly receptive to ignition. On numerous occasions fire resources have been surprised by fire intensity level and forced to alter normal suppression tactics because areas once used for safety zones or barriers now burn very actively (i.e. green wetland vegetation, cattails, riparian bottomlands, aspen stands, grazed pastures and agricultural croplands).

### Concerns to Firefighters and the Public:

- Energy Release Component (ERC) values at numerous weather station have been running well above average this season. Most are above the 90<sup>th</sup> and/or the 97<sup>th</sup> percentile or have set record highs. Ignition potential is extreme and new fires or spot fires grow and out run suppression efforts. **Know what your fire is doing at all times.**
- Anticipate fires to burn very actively in areas (which under normal conditions) could be used for safety zones (i.e. wetland vegetation, riparian bottomlands, green agriculture crops, and aspen stands). **Make all escape routes and safety zones known.**
- Anticipate any ignition in flashy fine fuels to ignite easily, burn rapidly during periods of dry windy weather. **You can't out run it!**
- Anticipate fires to exhibit extreme spread rates, elongated flaming fronts with a quick transition to crown fire and increased fire brands; **expect more long range spotting.**
- Both live and dead fuel moistures are near or exceeding critical thresholds. Record low 100 and 1,000 hour fuel moistures have been observed. These conditions are not expected to moderate until a season ending event occurs or until the areas of concern receive more frequent rainfall. **Do not expect fire to exhibit reduced fire behavior when entering areas of live fuels; anticipate increased rates of spread and spotting.**
- Anticipate dependent and independent crown fires in the insect infested conifer stands.

### Mitigation Measures:

- Ensure LCES is in place on every fire before engaging.
- Make certain firefighters have good anchor points and keeping one foot in the black.
- Consult the latest Fire Weather Forecast, Monthly Fire Weather, Fire Danger Outlooks, Pocket cards, become familiar with local fuel conditions and current fire danger indices.
- Have adequate numbers of Field Observers who understand the effects of weather changes, topography and can see the flaming front.

**Area of Concern:** All of Nebraska, western and southern South Dakota, including the Black Hills and eastern portions of eastern Wyoming and south central North Dakota..